

STAUB, Fryderyk, (Engineer)

"Iron Smelting."

See: Hutnik, No. 5, Stalinozgod, May 1953 (Air, Treasure Island # 144566, Feb. 1954,
Unclassified.)

STaub, F.

Staub, F., and Roachowski, A., Institut für Metallkunde und wissenschaftliche
Industrielle Apparatur, Warsaw, "Measuring of Microhardness", Press Instytutu
Mechaniki (Arbeiten der Institute für Mechanik), Warschau (1953) H.7, 2 54 bis 69,
1953, 8 Tafeln, Herausgeber: L. Lesko, Precision Instrument Technology
(Feingebrautechnik), July, 1953, Vol. 2, No. 7, p 301.

Staub, F.

ing

609.14-103: 621.791.057

3433

Pilarezyk, J., Staub F., Szegeja K. The Welding of Heat-Resisting Steels.
„Sprawanie stali żaroodpornych”. Przegląd Spawalnictwa. No. 2.

POL. V

1951, pp. 58-61, 13 figs, 5 tabs.

The authors review the results of gas and arc welding on heat-resisting steels by means of ES24-18 electrodes of past and present manufacture, and ES18-8-6 electrodes. The experiments revealed that 1) the arc method, since it provides a weld of superior mechanical strength, is more suitable for welding KNS-12 heat-resisting steel; 2) joints made with the use of ES18-8-6 electrodes are only slightly less sound than joints made by using the more expensive type of ES24-18 electrode; 3) the resistance to high temperatures of welds made by either of these two methods is not inferior to that of the KNS-12 steel itself; 4) the strength of the welds is lower than that of the parent material, a fact which should, by introducing correction factors alone in an accompanying table, be allowed for in the constructions.

2

7

STAUF, F.

"Survey of nondestructive methods of discovering defects in materials,"
Mechanik, Warszawa, Vol 27, No 1, Jan. 1954, p. 8.

SO: Eastern European Accessions List, Vol 3, No 11, Nov 1954, L.C.

STANE, FRYDERYK

Zastosowanie mikroskopu do badan stopow metali niezelaznych. (wyd. 1.) Warszawa, Panstwowe Wydawn. Techniczne, 1955. 111 p. (Application of the microscope to research on the melts of nonferrous metals. 1st ed. illus., bibl., tables)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

STAUB, FRYDERYK

3

POLO N

10718* Contemporary Views on the Dispersion Hardening of Metal Alloys. Współczesne poglądy na utwardzanie dyspersyjne stopów metali. (Polish.) Fryderyk Staub and Kazimierz Jasz. *Hutnik*, v. 22, no. 2, Feb. 1955, pp. 64-69.

Changes of strength properties during aging; statistical thermodynamic, and precipitation hardening theories; investigations utilizing irradiation by neutrons and electron microscopy. Graphs, table, diagrams. 28 ref.

M 82

STAUB, F.; CLEWICZ, E.

"Mikroskop metalograficzny" (Metallographical microscope), by F. Staub and E. Clewicz. Reported in New Books (Nowe Książki), No. 12, June 15, 1956.

STAUB, FRYDERYK

4
1-4E2C
18
13675* (Polish.) Studies on the Dispersion Hardening of
Tin Bronze. 172 badań nad utwardzaniem dyspersyjnym
brązów cynowych. Fryderyk Staub, and Aleksyśław Tokarski.
Rudy i Metale Nieżelazne, v. 2, May 1957, pp. 8-13.
Structure, properties, and applications of CuSn6 bronze. Theory
of dispersion hardening. Experimental data.

RG
up

STAUB, F.

Names of structures in the iron-coal system. p. 80
(HUTNIK, Vol. 24, No. 2, Feb. 1957, Katowice, Poland)

SO: Monthly List of East European Accessions Vol. 6, No. 9, Sept. 1957, Uncl.

STaub F.

1E2C
4E2B(W)

5918

689.112.227.342.5

Staub F., Tymowski J. The Effects of Tempering on the Properties of Steel of Bainitic Structure.

„Wplyw odpuszczania na własnośc stali o strukturze bainitycznej”.
Hutnik. No. 4—6, 1958, pp. 133—142, 28 figs., 1 tab.

The chemical composition of the steel grades covered by the investigation was as follows:

Grade of steel	COMPOSITION (per cent)							
	C	Mn	Si	P	S	Cr	Ni	Mo
40 H ¹⁸	0.37	0.74	0.32	0.007	0.021	0.92	—	—
35 HM ¹⁸	0.34	0.61	0.28	0.010	0.015	0.86	0.20	0.14
36 HNM ¹⁸	0.42	0.77	0.35	0.011	0.012	1.19	1.37	0.16
37 HS ¹⁸	0.37	0.40	1.02	0.022	0.012	1.38	0.12	—

Investigations on the structure, the strength, and other properties of the four steel grades after isothermal hardening followed by tempering, led to certain conclusions regarding the behaviour of these steels when the treatment was applied deliberately or accidentally: 1) when the hardness and the tensile strength of steel of bainitic structure after tempering is always reduced more rapidly than in the case of steel hardened to martensite, though the 37 HS steel does not, in these properties, differ greatly from martensite steel; 2) the limit of plasticity in bainitic structures is always lower than in tempered martensite or in sorbitic structures, and this condition is not changed by tempering; 3) after-hardening, the plasticity of steel as measured by elongation and

Staub F., Tomkowski J.

the rereduction of the cross-sectional area, increases together with the increase of the tempering temperature, although, at low tempering temperatures the reduction of cross-sectional area of bainitic structures is only very slightly better than that of tempered martensite steel, while higher isothermal treatment temperatures greatly worsen the reduction-of-area characteristic of bainitic steel; 4) tempering at temperatures of 350—450° C. may in some cases greatly reduce the impact strength of steel.

7.
2

P/517/61/000/041/001/001
E193/E383

AUTHORS: Staub, Fryderyk, Bubliński, Jan and Miliński, Piotr
TITLE: The effect of temperature and degree of plastic deformation on the formation of slip lines and phase transformation in the 18-8 austenitic steels
SOURCE: Gliwice. Politechnika Slaska. Zeszyty naukowe. no. 41. 1961. Mechanika. no. 9. Metaloznawstwo. no. 1. 5-29
TEXT: The chemical composition (%) of the steels studied in the present investigation is:

Steel	C	Mn	Si	P	S	Cr	Ni	Mo	Ti
1H18N9T	0.15	0.83	0.79	-	0.020	17.7	10.4	-	0.55
1H18N10M	0.07	1.49	0.25	0.010	0.022	19.6	8.78	2.10	-

The preliminary heat and mechanical treatment consisted of:
1) heating the steels to various temperatures in the austenitic range (900 - 1 250 °C), holding at the temperature from 10-40 min and quenching in air, water or liquid air; 2) plastic deformation in tension; 3) ageing for 10 hours at 550 °C. The experimental

P/517/61/000/041/001/001
E195/E385

The effect of

work included tensile tests at temperatures between 20 and -188 °C, determination of true-stress/true-strain diagrams at 20, -70 and -188 °C, examination of slip lines in plastically deformed specimens, determination of the proportion of residual austenite as a function of plastic deformation and temperature, X-ray diffraction analysis, hardness measurements and metallographic examination. The results can be summarized as follows. a) Steel 1H18N9T, water-quenched from 1 050 °C has a UTS equal to 58 kg/mm² and a finely crystalline structure; quenching from 1 200 °C brings about grain growth and reduces the UTS to 45 kg/mm². b) Plastic deformation of less than 2.5% causes twinning. Slip lines appear after a deformation greater than 2.5%, the distance between them decreasing from 5 μ after 2.5% deformation to 2 μ after 20% deformation. A small quantity of martensite is formed at the austenitic grain boundaries in material subjected to 30% deformation. c) Austenitizing of steel H18N10M at 1 200 °C followed by sub-zero treatment at -188 °C brings about the precipitation of 11% ferrite. This figure can be reduced to 5.5% by using a double treatment: water-quenching from 1 200 °C followed by water-quenching from 900 °C and sub-zero treatment at -188 °C. d) UTS of steel H18N10M

Card 2/4

P/517/61/000/041/001/001
E193/E383

The effect of

increases with decreasing temperature, being 55, 100 and 135 kg/mm² at 20, -77 and -188 °C, respectively. e) The proportion (M, %) of the ferromagnetic phases ($\alpha_2 + \delta$) in steel H18N10M varies with temperature and degree of plastic deformation ($\epsilon = \ln(l_1/l_0)$) as demonstrated in Fig. 9. f) The following values were calculated for the temperature (M_s) of the martensitic transformation, the temperature (T_E) of the thermodynamic equilibrium and the temperature (M_{d30}) at which 50% martensite is formed in steel subjected to deformation $\epsilon = 0.30$:

	M_s	T_E	M_{d30}
1H18N9T	-	337 °C	-5.2 °C
H18N10M	-221 °C	332 °C	-25 °C

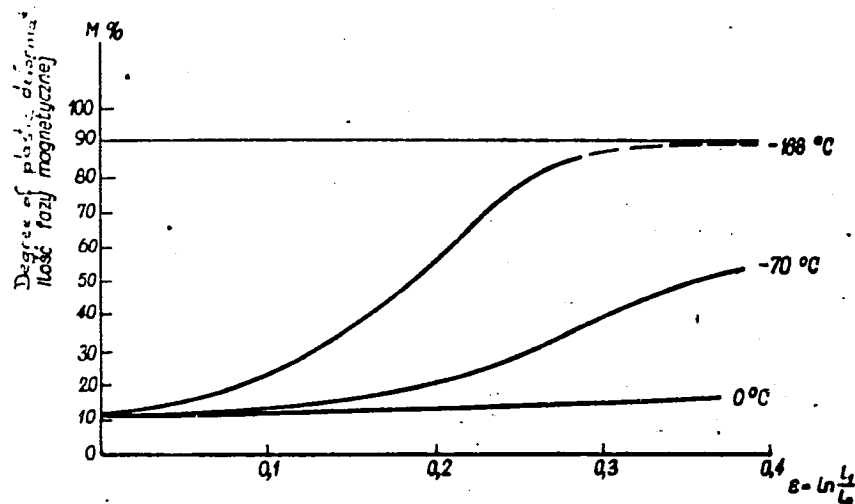
g) The lattice parameters of various phases in the steels studied have been found to be essentially the same as those quoted in the literature. There are 20 figures and 6 tables.

Card 3/4

The effect of

P/517/61/000/041/001/001
E193/E385

Fig. 9:



Card 4/4

STAUB, Fryderyk, prof.; ADAMCZYK, Jan, mgr., inz.

"Theoretical bases for the knowledge of metallurgy" by Jerzy Kaczynski and Stanislaw Prowans. Reviewed by Fryderyk Staub and Jan Adamczyk. Przegl mech 20 no.21:665-666 '61.

(Metallurgy) (Kaczynski, Jerzy)
(Prowans, Stanislaw)

STAUB, Frycaryk; MACIEJNY, Adolf

Etching of microsections in electron microscopy. Mechanika
Gliwice no.15:3-19 '62.

STAUB, Fryderyk; ADAMCZYK, Jan

Aging of low-carbon steel; research with the electron microscope.
Mechanika Gliwice no.15:49-59 '62.

STAUB, Fryderyk, prof, mgr inz.

Preface. Mechanika Gliwice no.16:3-4 '62.

1. Kierownik Katedry Metaloznawstwa, Politechnika, Gliwice.

STAUB, Fryderyk, prof. mgr inż.; PRZEGALINSKI, Stanisław

~~Schooling~~ graduate engineers in the field of physical metallurgy
for the needs of industry. Mechanika Gliwice no.16:5-7 '62.

1. Katedra Metaloznawstwa, Politechnika, Gliwice.

STAUB, Fryderyk, prof. mgr inż.; GUBALA, Jerzy

Contemporary methods of study in metallography. Mechanika
Gliwice no.16:9-15 '62.

1. Katedra Metaloznawstwa, Politechnika, Gliwice.

STAUB, Fryderyk; CIESLAK, Lucja

Accelerated recrystallization of cold-rolled low carbon steel
sheets. Archiw hutn 7 no.4:333-344 '62.

STAUB, Fryderyk

Recollections about Professor Wladyslaw Kuczewski. Mechanika
Gliwice no. 20: 5-7 '63.

STAUB, Fryderyk, prof.; ADAMCZYK, Jan, mgr inz.

"Metal structure testing with radioactive isotopes" by S.Z.
Boksztein, S.T. Kiszkin, L.M. Moroz. Reviewed by Fryderyk Staub,
Jan Adamczyk. Przegl mech 22 no.10:324 25 My '63.

STAUB, Fryderyk, prof.: ADAMOZYK, Jan, dr inż.

Educing processes and their influence on the mechanical properties
of 18-8 steel from Mo and Ti aged after cold working. Hutnik
31 no.9:283-294 S '64.

1. Department of Physical Metallurgy of the Silesian Technical
University, Gliwice.

STAUB, Fryderyk, prof. mgr inż.; MACIEJNY, Adolf, dr inż.

Kinetics of tempering H9S2 chromium silicon valve steel.
Hutnik P 31 no. 4:114-123 Ap '64.

1. Department of Physical Metallurgy, Silesian Technical
University, Gliwice.

32A05, Fryderyk, prof. magr inż.

Transmutations and coalescence of carbides while tempering
H9S2 silico-chromium valve steel. Hutnik 31 no.6:183-192
Je*64

1. Department of Physical Metallurgy, Silesian Technical
University, Gliwice.

57700 11.
CZECHOSLOVAKIA / Magnetism. Magnetic Resonance.

F-7

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6489

Author : Staub, H.

Inst : Physics Institute of the Czechoslovak Academy of Sciences,
Prague, Czechoslovakia.

Title : Concerning the Theory of the Coercive Force in Thin Metal
Sheets.

Orig Pub : Arch. sci., 1956, 9, fasc. special, 178 - 181.

Abstract : Using a simple model of domain structure, the author calculates the energy density of the scattering fields of the domain walls on the surface of the ferromagnetic. It is indicated that this energy is comparable with the energy density of the domain walls. A relationship is thus obtained for the dependence of the coercive force on the thickness of the material. Comparison with experimental data gives satisfactory agreement with the calculations.

Card : 1/1

STAUB, J. 1949

(Inst. of Med. Chem.&Stomatol. Clini, U. Debrecen)

"Fluoride Saturation Rate of Human Enamel."

Jour. of Dental Res. 1949, 28/3(310-312)
Abst: Exc. Med. 11, Vol. 111, No. 4, p. 444

STAUB, K.

4

2942

620.178.154.56

Staub K., Rościszewski A. Measurements of Microhardness.

Prac. Inst. Mechan. No. 7, Warszawa, 1953, PWT, 15 pp., 10 figs., 6 tabs.

Microhardness tests deviate from Kik's law of resemblance. This is caused by discontinuity in space lattice structure, by forces resulting from crystal structure and surface tension, by returnable elastic deformation, by methods of surface preparation and by other factors. Meyer's law (of power) applies to microhardness measurements providing that coefficients μ and μ_n are not similar to those applied in macrohardness measurements. Principles of a correct microhardness measurement and discussion of principles of a correct arrangement. Description of construction of Girschig's microhardness tester. Comparison of advantages and disadvantages as between Girschig's and Bergmann's testers reveals the superiority of the former. Results of microhardness measurements of ferrite, perlite, martensite, cementite and other steel and cast iron structures. Errors in pyramid impression diagonal measurements depends on the accuracy of the microscope and on the eye of the investigator as well as on the investigator's skill.

LL
JP

STAUBER, Marcell; SZPIKOWSKI, Jozef

Problem of epidemic fungus diseases of the foot. Przegl. dermat.,
Warsz. 4 no.5:361-369 Sept-Oct 54.

1. Z Oddziału Dermatologicznego Centralnego Szpitala Ministerstwa
Bezpieczeństwa Publicznego w Warszawie. Ordynator: dr M. Stauber.

(FUNGUS DISEASES,

foot, epidem. in military camp)

(FOOT, diseases,

fungus dis. in military camp)

STAUBER, Marcell

Therapy of psoriasis with acrichine. Przegl.derm. Warsz. 5 no.1:
23-26 Jan-Feb '55.

1. Z Oddziału Dermatologicznego Centralnego Szpitala M.B.P. w
Warszawie Ordynator: dr M. Stauber. Warszawa, ul. Kasimierska
83.

(PSORIASIS, therapy
quinacrine)

(QUINACRINE, ther.use
psoriasis)

STAUBER, Marcell

Results in the treatment of suppurative skin diseases with a nitrofurant derivative (furacin). Przegl. dermat. 48 no.8/10:403-408 '61.

1. Z oddzialu dermatologicznego Centralnego Szpitala Klinicznego M. S. W. w Warszawie Ordynator dr. M. Stauber.
(PYODERMA ther) (NITROFURANS ther)

STAUBER, Marcell

Allergic manifestations during the treatment of mycoses with griseofulvin. Przegl. dermat. 49:209-212 '62.

1. Z Oddzialu Dermatologicznego Centralnego Szpitala Klinicznego
MSW w Warszawie. Ordynator: dr M. Stauber.
(GRISEOFULVIN) (DRUG ALLERGY)

STAUBER, Marcei; KAJZER, Tadeusz

The appearance and course of the Herxheimer-Lukasiewicz reaction following the administration of various antibiotics. Przegl.derm. 50 no.2:167-172 Mr-Je'63

1. Z Oddzialu Dermatologicznego Centralnego Szpitala Klinicznego MSW w Warszawie; ordynator: dr. M.Stauber.

*

5(2) PAGE 1 BOOK INFORMATION SOV/197

Академия наук СССР. Институт геохимии и аналитической химии

Методы анализа элементов, полноты, аналитические (Rare Earth Elements) Extraction, Analysis and Application) Moscow, Izdat. AN SSSR, 1976. 331 p. 2,200 copies printed.

Вып. 64: D. I. Ryabchikov, Professor; Editorial Board: I. P. Alimarin, Corresponding Member, USSR Academy of Sciences, I. P. Zolotarev, Doctor of Chemical Sciences, E. V. Koglyarov, Candidate of Technical Sciences, V. I. Kuznetsov, Doctor of Chemical Sciences, A. M. Kuznetsov, Candidate of Chemical Sciences, and Yu. S. Silvestrov, Candidate of Chemical Sciences. Eds. of Publishing House: P. S. Trifonov and V. G. Levit. Tech. Ed.: S. G. Muravich.

PURPOSE: This book is intended for scientists, chemists, teachers and students of higher educational institutions, chemical and industrial engineers, and other persons concerned with the extraction, preparation, use, or study of rare earth elements.

CONTENTS: This collection contains reports presented at the June 1956 Conference on Rare Earth Elements at the Institute of Geochemistry and Analytical Chemistry (Academy of Sciences of the USSR). The articles present the methods of separating rare earth mixtures, methods of processing rare earths, ion exchange chromatography, chemical analysis, and some industrial applications of rare earths. Aside from contributing authors, the editors mention the following Soviet scientists who are studying rare earth elements, rare earth deposits, extraction methods, and the preparation of oxides and salts: Martynov, Melnikov, Khrushchev, Melnikov, Piatovskiy, Chistykh, Tsutser, Melnikov, Zubov and especially, E. A. Orlov, who first obtained the majority of rare earth elements in the pure state, separated many complex molecular compounds of these elements, and determined their specific properties. References are given at the end of each article.

TABLE OF CONTENTS:

Безруков, В. И., and Ya. V. Mitrofanova (Institute of Geochemistry and Analytical Chemistry, Acad. Sci. USSR). Chemical Method of Control During the Separation of Rare Earth Elements of the Titrant Sub-Group	196
Полухин, В. В., E. S. Lamer, and E. B. Zolotarevskaya (Ukrainian Institute for Rare Metals). Utilization of Differential Chromatography on Paper for Approximate Determination of the Composition of Rare Earth Elements	199
Полухин, В. В., and E. P. Skomorova (Ukrainian Institute for Rare Metals). Fluorescent Determination of Small Amounts of Europium	206
Безруков, В. И., and E. A. Khrushchev (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskoy volokna [All-Union Scientific Research Institute for Glass Fibers]). Accelerated Determination of Iron Oxides in Preparation of Glass Fibers	214
Безруков, В. И., I. P. Zolotarev, and A. P. Kozlovskiy (Institute of Geochemistry and Analytical Chemistry, Acad. Sci. USSR). Application of X-ray Spectroscopic Analysis for Control of the Industrial Process of Producing Individual Rare Earth Elements	217

Card 6/11

MASTNY, V.; STAUD, J.; JANIK, B.

Advances in rehabilitation in injuries of the area of the
hip joint. Rozhl. chir. 42 no.7:484-487 J1 '63.

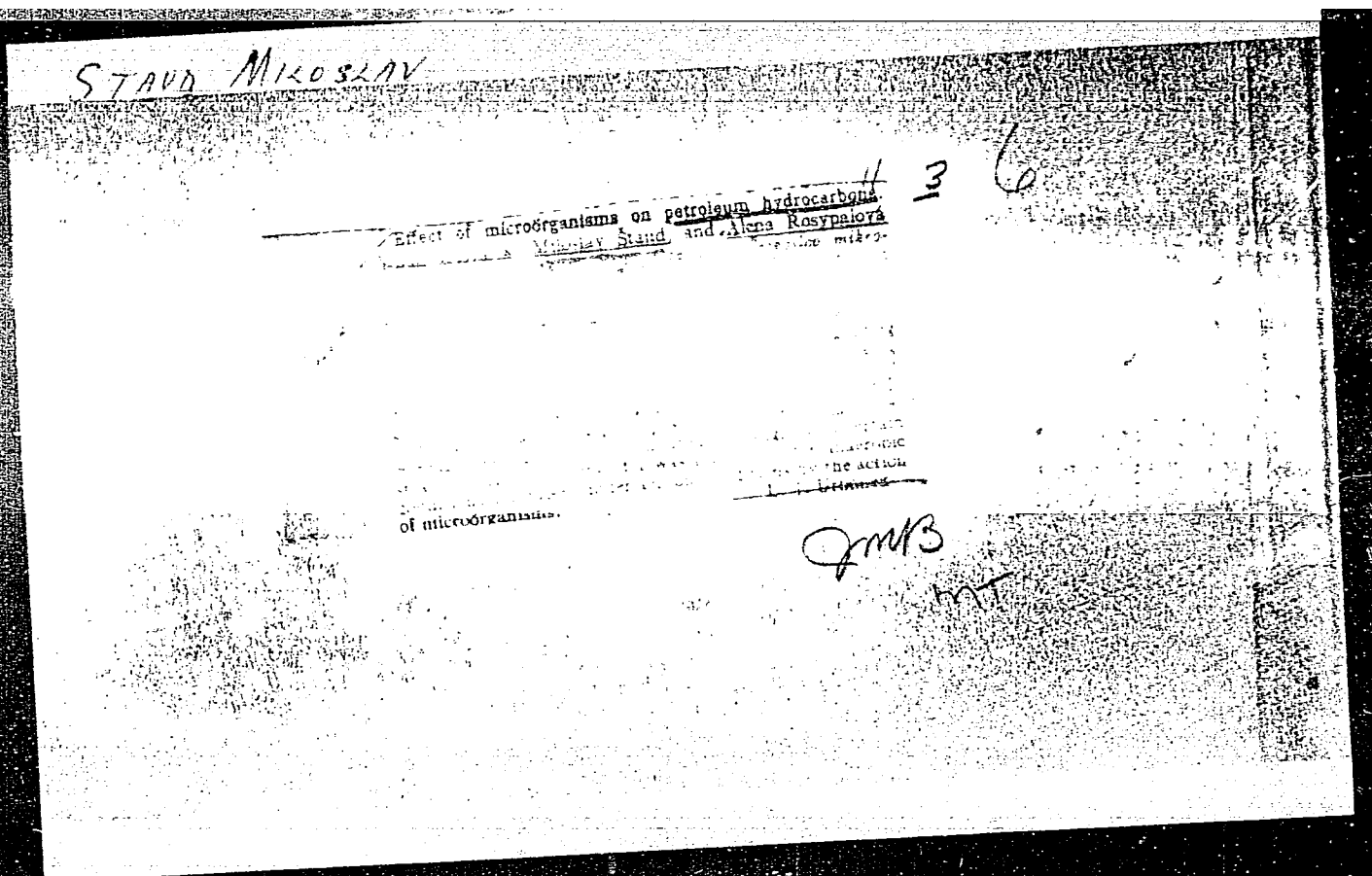
1. Vyzkumny ustav traumatologicky v Brne, reditel prof. dr.
Vl. Novak, DrSc.

(HIP) (FEMORAL FRACTURES) (PSYCHOTHERAPY)
(PHYSICAL THERAPY) (REHABILITATION)
(FRACTURE FIXATION) (AGED)

SZEGO, Laszlo, dr.; LOOS, Tibor, dr.; STAUD, Jozef, dr.

Experience with griseofulvin therapy in a hospital epidemic of
Trichophyton infection. ~~Gyermekgyógyászat~~ 13 no.2:41-47 F '62.

1. Szabolcs-Szatmar megyei Tanács Kórháza (Igazgató: Lengyel Ferenc
dr.) Gyermekbőrgyógyászati Osztály (Főorvos: Loos Tibor dr.) és Bőrgyógyászati
osztályának (Főorvos: Szego Laszlo dr.) közleménye, Nyíregyháza.
(HOSPITALS) (RINGWORM ther)
(GRISEOFULVIN ther)



STAUD, M.

7 3

Evaluation of Czechoslovak adsorbents for hypersorption of hydrocarbon gases. Miloslav Staud (Ústav pro naftový výzkum, Brno, Czech.). Chem. průmysl 8, 617-22 (1968) (English summary).—Supersorbon (activated C), Benzorbon (activated C), alumina, silica gel, and Alusil (SiO_2 80.37, Al_2O_3 8.6, Na_2O 6.69, K_2O 2.57, SO_3 0.37, CaO 0.26, Fe_2O_3 0.15, and MgO 0.04%) were investigated. The best adsorbents for gaseous hydrocarbons were the 2 types of C. Benzorbon had higher rubbing fastness, Supersorbon a little higher adsorptivity. Their disadvantage was the low selectivity towards hydrocarbons with the same no. of C atoms. Silica gel had a lower adsorptivity but high selectivity and low rubbing fastness. It was suggested to use the C for a crude sepn. of hydrocarbons and silica gel for a sepn. of mixts. with the same no. of C atoms. Alumina and Alusil were not suitable for the sepn. Alexej B. Bořkovec

GW
1/1

JG

CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry.

D

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77089.

Author : Staud, Miloslav; Dlabac, Mikula.

Inst :

Title : Contribution to the Question of Correlation and
Genesis of Czechoslovak Petroleum from the Vienna
Basin.

Orig Pub: Rada MPV, 1958, 68, No 1, 1-28.

Abstract: The study of petroleum from Paleogene and Neogene
deposits were carried out. The mean composition
and the percentual contents of the naphthene, pa-
raffin-naphthene and paraffin fractions were de-
termined according to data of 170 chemical analyses.
It was found that the specific gravity of the pe-
troleum starts to decrease from the depth of about

Card : 1/2

CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry.

D

Abs Jour: Ref Zhur-Khin., No 23, 1958, 77089.

500 m; the amount of aromatic substances increases to the depth of 500 m, but after that it starts to decrease; the amount of paraffins increases with the depth. Based on the obtained data and the geological structure of the basin, conclusions were reached regarding the genesis of the petroleum and the course of its migration was established. -
L. Flerova.

Card : 2/2

26

STAUD, M.

~~STAUD, M.~~

Distr: 4E3d

✓ Cleavage of paraffinic hydrocarbons by the arc method—
single step process. František Čagán, Miloslav Štaud
and Anatolij Lazarev (Ústav pro naftový výzkum, Brno
Czech.). *Chem. průmysl* 9, 225-30 (1959).—The author:
calcd. standard isobaric potentials at variable temps. for
the reactions of heat cleavage of CH_4 . From the dependence
of these potentials on the temp., the reaction of decompn.
of C_2H_6 to C and H was not important up to 1540°K , and
up to 1940°K . asserted itself not fully; above 1940°K
 CH_4 decompd. mainly to C_2H_2 . The soots originated there
fore mainly by the direct decompn. of CH_4 and only in
smaller degree by the decompn. of C_2H_6 . The app. was
described. P. Čefelín

6
1-22 (NB)

STAUD, M

Distr: 4E3d

7

Cracking of paraffin hydrocarbons by the arc method.—
Two-step process. Frantisek Cagal, Miloslav Staud, and
Anatolij Lazarev (Ústav pro naftový výzkum, Brno,
Czech.). Chem. průmysl 9, 342-7 (1959); cf. ibid. 225-30.
—H₂O was replaced by paraffin hydrocarbons for spray
cooling of the hot (1500°) gaseous product obtained by crack-
ing CH₄ to C₂H₂ and C₂H₄ in the elec. arc; in this way 10-
15% of the energy lost in the one-step process is utilized.
The product gas from the 2-step process is enriched in C₂H₂,
and C₂H₄, and the energy requirements are lowered by 21%
when calcd. for C₂H₂, and by 35-38% when calcd. for C₂H₄,
and C₂H₆. Use of gasoline for cooling raises its octane no.;
the optimum ratio is 1 l. of gasoline/cu.m. of CH₄. The
design of an arc app. for a flow rate of 5-10 cu.m./hr. is
given. The duration of the 2-step cracking reaction is
10⁻²-10⁻¹ sec. and is followed by cooling the gas to <200°
by a H₂O spray. P. Čadež

6
1.201/NA

423'

STAUD, M.

Distr: 4E3d

Economical cracking of paraffin hydrocarbons in the electric arc. Frantisek Cergas, Miloslav Štand, and Anatoli Lazarev. *Erdöl u. Kohle* 12, 818-23 (1959).—Said. hydrocarbons, esp. CH_4 , are converted into unsatd. hydrocarbons (C_2H_2) by means of an a.-c. arc. The initial expense for such an app. is much smaller than for the conventional d.-c. arc. A two-step process was developed which utilizes part of the energy normally lost for the cracking of higher paraffins to increase the yield of olefins. Otto C. Elmer

4
1

DLAEACH, M. [Dlabac, M.]; SHTAUD, M. [Staud, M.]

Origin and composition of the petroleum of Vienna basin. Prace
ust naft 18:25-26 '61.

STAUD, Miloslav; RAODS, Miloslav; SIR, Emanuel; SKARVADA, Ales

Hydrogenation of Romashkino crude oil. Ropa a uhlie 5 no.7:
205-208 JI'63.

1. Vyzkumny ustav Kralovopolske strojirny, zavody chemickych
zarizeni, n.p., Brno.

STAUD, Vaclav

STAUD, Vaclav

Mechanisace lesni dopravy. [Vyd. 1] Praha, Statni pedagogicke nakl., 1953. (Ucebni texty vysokych skol) [Mechanization of Transportation in Forestry. Vol. 1. "Mechanical Means for Short-and Long-distance Transportation and the Loading of Wood." illus., bibl.]

SO: Monthly List of East European Accessions, Library of Congress, Vol. 3, No. 4, April 1954. Unclassified.

STAUDACHER, V.

Transplantation of endocrine organs and glands. Khirurgiia 35 no,8:
107-108 Ag '59. (MIRA 13:12)
(ENDOCRINE GLANDS—TRANSPLANTATION)

STAUDE, H.

RUMANIA/Optics - Photography

K-13

Abs Jour : Ref Zhur - Fizika, No 2, 1958, No 4961

Author : Staudé, H.

Inst : Not Given

Title : New Data on Photographic Development

Orig Pub : Studii si cercetari fiz., 1954, 5, No 1-2, 179-187

Abstract : Description of the results of two earlier works on the investigation of the mechanism of photographic development (Referat Zhur Khimia, 1955, 5325, 39796).

Card : 1/1

STAUDE, N. M.																									
551.593.55 : 535.436																									
5169. The influence of the second order diffraction on the azimuthal twilight brightness. STAUDE, N. M. Dokl. Akad. Nauk, SSSR, 99 (No. 7) 1281-2 (1968) In Russian.—See preceding Abstr. Hulbert's results are partly confirmed (for a low sun), and partly found far too small (for the sun still relatively high).																									
ASAC 514 METACOLOGICAL LITERATURE CLASSIFICATION																									

Staudigl, O.

Staudigl, O. Methods to avoid dampness on ceilings and walls of
stables. p.447.

Vol. 4, no. 12, Dec. 1956
POZEMNI STAVBY
TECHNOLOGY
Czechoslovakia

So. East European Accessions, Vol. 6, No. 5, May 1957

✓ 51. A critical examination of the balancing of multi-weight shaft plumbing J. Staudinger. (Há-nydászati Lapok -- Vol. 10 (88), 1955, No. 1, pp. 32-35) GP

The same example has been used by Wilski, Fox, Niemczyk and Paus for the precise balancing of multi-weight shaft plumbing according to different balancing groups by disregarding the diverting influence of air currents. In addition the author has employed this numerical example to execute the exact balancing by the method propounded by Törözy-Hornoch. However, the result obtained by the latter method does not conform with those obtained by the above mentioned authors, since in balancing the corrections are not applied to the measured values but to one of their functions and thus the principle of the independence of the mean error is not ensured. The author ascertained that a correct result could be obtained even in applying the above mentioned method if the mean error of the most probable $\bar{X}$ value would be computed as the mean error of the balanced values.

STAUDINGER, Jancs, okleveles banyamernok

Convergence measurements in longwalls. Bany lap 96 no.11:
889-890 M '63.

1. Banyaszati Kutato Intezet, Budapest.

STAUDINGER, Janos, okleveles banyamernok

Making characteristic curves for the steel props and wooden pillars
in some longwalls of the Central Dunantul Coal Mining Trust. Bany lap
97 no.6:378-382 Je '64.

1. Mining Research Institute, Budapest.

15.9000

2209, 1436, 1451

23680

Z/043/61/000/004/001/001

D222/D305

AUTHORS: Beniska, Jozef, Doctor, Engineer and Staudner,
Emil, Engineer, Candidate of Sciences

TITLE: Modification of rubbers, I - Investigation of rubber
modification during plasticization on two-roll mills

PERIODICAL: Chemické zvesti, no. 4, 1961, 292-305

TEXT: Modified rubbers, i.e. copolymers with natural or
synthetic rubber as one of the initial materials, have distinctive
properties and are of great technical interest. Numerous studies
were made in this field, but most of the tests were performed on
laboratory-size equipment only. This paper investigates the pos-
sibility of preparing modified rubbers with available production
means, two-roll mills, in the presence of air. Tests were perfor-
med with pale crepe (0.48% N₂, 2.82% acetone extract, 0.47% ash,
plasticity 3.000°C, Defo, limiting viscosity index 4.3·10² ml/g);
Butadiene-styrene "Buna S3" (0.27% N₂, 22-23% styrene, 2.7%

Card 1/6

23680
Z/043/61/000/004/001/001
D222/D305

Modification of rubbers . . .

phenyl-naphthylamine, plasticity 2.700° Defo, limiting viscosity index in benzene $3.8 \cdot 10^2$ ml/g); and butadiene-acrylonitrile "Polysar N301" (8.48% N_2 , 8.10% N_2 after extraction, which represents 30.70% acrylonitrile, plasticity 1.500° Defo, limiting viscosity index in acetone $0.93 \cdot 10^2$ ml/g). These rubbers were used in 1:1 mixtures in the following combinations: a) pale crepe-Buna; b) pale crepe - Polysar; and c) Buna - Polysar. For comparison of properties, the two rubber components were both, simultaneously and separately plasticized. For simultaneous plasticization, the rubbers were mixed by running them several times over the heated rolls ($70 - 75^{\circ} C$) at a distance between rolls 1-2 mm. The uniform mixture was then plasticized on chilled rolls ($20-25^{\circ} C$) at a distance between rolls of 0.1-0.15 mm, for periods of 5, 10, and 20 min. For separate plasticization, each rubber was plasticized in the same way, and, after a rest period of one day, mixed

Card 2/6

23680

Z/043/61/000/004/001/001
D222/D305

Modification of rubbers . . .

together on heated rolls (67 - 75°C) for 2-3 min. The rolls of the two-roll mills were 400 mm long and 150 mm in diameter; the speed of the first roll was 21.5 rpm, that of the second roll was higher, the resulting friction was 1:1.2 . The rolls could be either chilled with water or heated with steam. The progress of rubber modification was investigated by: a) measuring the plasticity on a Defo plastometer (according to ČSN 62410) depending on the plasticization time; b) measuring the limiting viscosity index on an Ubbelohde viscosimeter type Ca at $20 \pm 0.05^\circ\text{C}$, depending on the plasticization time; c) selective precipitation(of rubbers solved in benzene, precipitated with acetone) depending on the plasticization time; d) selective dissolution (for crepe-Buna mixtures where selective precipitation is not applicable) and e) measuring the swelling in benzene with a Fedotov apparatus. The latter test method for plasticized rubbers also allows determination of the point when dissolution starts to exceed swelling.

Card 3/6

23680

Z/043/61/000/004/001/001
D222/D305

Modification of rubbers

Generally, it was found that cold plasticization has rather differing effects on various rubber types. The most rapid degeneration was observed for pale crepe, the Defo value of which dropped from 3.000 to 100 after 10 min of plasticization. Simultaneously plasticized mixtures have considerably lower plasticity than separately plasticized mixtures, however, this difference lessens with increasing plasticization period. Parallel to the plasticity development, the viscosity of simultaneously plasticized mixtures drops more slowly than that of separately plasticized mixtures. The assumption that these differences in plasticity and limiting viscosity index are caused by the formation of modified rubbers during simultaneous plasticization could be confirmed by the results of selective precipitation and dissolution. The modification occurs in the first phases of simultaneous plasticization. After 20 minutes, 7% of the total amount of pale crepe were bound to Polysar, 8.5% of pale crepe were bound to Buna, and 14% of Buna to

Card 4/6

23680

Z/043/61/000/004/001/001
D222/D305

Modification of rubbers . . .

Polysar. It can be expected that the actual amounts of bound rubber are higher than those calculated by the results of selective precipitation and dissolution, since portions of the copolymer may be retained in the precipitate or in the undissolved part respectively. This is especially true when the less-polar component prevails in the copolymer molecule. The observed increased resistivity of simultaneously plasticized rubber mixtures to solvents (benzene) is also attributable to copolymer formation. Corresponding results were obtained in swelling tests. As confirmed by such tests, the largest degradation and macroradical formation occurs during the first phases of plasticization; the yield of modified rubbers increases only slightly during longer plasticization periods; the total yield of modified rubbers, produced by cold plasticization, is rather small. Compared with mechanically mixed rubbers, modified rubbers have rather different physical properties, most distinctive is their increased resistance

Card 5/6

23680

Z/043/61/000/004/001/001
D222/D305

Modification of rubbers . . .

to non-polar solvents. There are 10 figures, 2 tables and 12 references: 7 Soviet-bloc and 5 non-Soviet-bloc. The references to English-language publications read as follows: W.F. Watson, D.J. Wilson; J. Sci. Instr. 31, 398 (1954); D.J. Angier, W.F. Watson, Trans IRI 33, 22 (1957); W.F. Watson, D.J. Wilson; Rubb. Plast Age 38, 982 (1958); D.J. Angier, E.D. Farle, W.F. Watson; Trans IRI, 24, 8, (1958). X

ASSOCIATION: Katedra organickej technológie Slovenskej vysokej školy technickej v Bratislava (Department of Organic Technology, Slovak Institute for Technology, Bratislava)

SUBMITTED: October 24, 1960

Card 6/6

STAUDNER, Emil, inz.; BENISKA, Jozef, doc., inz.

Modification of caoutchoucs (II). Examination of the modification of caoutchoucs in making plastics on a worm pressing machine. Chem zvesti 16 no.6:431-438 Je '62.

1. Katedra organickej technologic, Slovenska vysoka skola technicka, Bratislava. Adresa autorov: Bratislava, Kollarovo namesti 2, Chemicky pavilon, Slovenska vysoka skola technicka.

L 17510-63

EPR/ENP(j)/EFF(c)/BDS

AFTTC/ASD

PS-4/PC-4/Pr-4

RM/WW

ACCESSION NR: AP3001796

Z/0043/63/000/005/0330/0336

AUTHOR: Beniska, J. (Docent, Engineer, Science Candidate), Staudner, E.
(Engineer)

70
69

TITLE: Modifications of rubbers (Part 3). Study of the preparation of modified polymers based on plasticized rubber [presented at the high polymer chemistry conference in Smolensk, 12-15Sep62]

SOURCE: Chemicke zvesti, no. 5, 1963, 330-336

TOPIC TAGS: rubber plasticizing, peroxide formation, plasticizing radical, acrylonitrile reaction rate

ABSTRACT: Authors present a method of preparation of modified polymers of rubber plasticized by vinyl monomers. The peroxides or hydroperoxides that are formed during cold plasticizing are decomposed by higher temperature and form macroradicals. These initiate polymerization of monomers thus forming modified polymers. The amount of peroxides in plasticized rubber indicates that they are formed by the reaction of oxygen with mechanically broken chemical

Card 1/1 ✓

L 17510-63

ACCESSION NR: AP3001796

0

bonds in the rubber molecule. The highest plasticizing effect, that is the greatest reduction in molecular weight during cold plasticizing, is shown in the first 10-15 minutes. Subsequently there is very little change; formation of peroxides follows the same pattern. Peroxides are stable at low temperatures but on heating they decompose as follows: $ROOH \rightarrow RO + OH$; the 2 resulting radicals initiate polymerization of monomers. RO radicals form modified polymers, OH form homopolymers. When acrylonitrile is used for modification, only small amounts of homopolymer are formed, because OH radical reacts with the methylene group of rubber, forming a new macroradical. This modification is characterized by two different reaction velocities; the first two hours the reaction is fast, later it is slow. It is assumed that the second phase is influenced by decomposition of peroxides, by the diffusion of rubber monomer into polymers and by trapped radicals. If heating is interrupted for 12 hours and then resumed, there is no apparent difference in the rate of reaction in comparison with uninterrupted heating. The amount of conversion of the monomer increases with the time of the reaction and with increasing temperature. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Slovak Technical University

Card 2/12

L 17511-63

EPR/EWP(j)/EPF(c)/BDS

AFFTC/ASD

Ps-4/Pc-4/Pr-4

RM/WW

ACCESSION NR: AP3001797

Z/0043/63/000/005/0337/0345 75

AUTHOR: Staudner, E. (Engineer), Beniska, J. (Docent, Engineer, Science Can-
didate), Stoklasa, K., Mosny, J., Dohanyos, J. 72

TITLE: Modifications of rubbers (Part 4). Study of the composition of mixtures resulting from modifications of butadiene-styrene rubber by polystyrene [presented at the high polymer chemistry conference in Smolensk 12-15Sep1962]

SOURCE: Chemické zvesti, no. 5, 1963, 337-345

TOPIC TAGS: synthetic rubber solubility, synthetic rubber solvent, chloroform rubber solvent, acetone solvent separation, selective precipitation, precipitation control, photocolormeter

ABSTRACT: The article describes a method for separating individual components in the mixtures of butadiene-styrene rubbers modified by polystyrene. A mixture of methanol with acetone in ratios of 1:3 to 1:9 is suitable for the separation of polystyrene from the rubber; this mixture precipitates polystyrene from a solution in benzene while rubber remains in solution. Pure methanol or pure acetone do not give satisfactory results; neither do mixtures in other

Card 1/2

L 17511-63

ACCESSION NR: AP3001797

3

proportions than those stated. Petroleum ether precipitates only polystyrene from benzene solution; precipitation starts when the amount of petroleum ether reaches the amount of benzene present, and is completed at a ratio of benzene 3 to petroleum ether 7. Synthetic rubbers trade name Polysar-Krylen NS and Vestyron N were studied according to the method described; changes occurring as a function of the duration of mixing were noted. Increase of mixing time causes increase in the amount of copolymers. The method was checked for selectivity of precipitation of components by measuring extinction with a photocolorimeter. Orig. art. has: 7 figures and 2 tables.

ASSOCIATION: Katedra organickej technologic Slovenskej Vysokej Skoly Technickej, Bratislava (Chair of Organic Technology of the Slovak Technical University)

SUBMITTED: 05Oct62

DATE ACQ: 25Jun63

ENCL: 00

SUB CODE: CH, IE

NO REF SOV: 003

OTHER: 011

Card 2/2

L 15397-66 EMP(j)/T IJP(c) RM

ACC NR: AI6033602

SOURCE CODE: CZ/0043/66/000/001/0018/0027

AUTHOR: Staudner, Emil--Shtaudner, E. (Engineer; Bratislava); Beniska, Jozef--
Beniska, Y. (Docent; Engineer; Candidate of sciences; Bratislava); Znamenakova,
Gabriela (Engineer; Bratislava)

42
B

ORG: Department of Organic Technology, Slovak Technical University, Bratislava
(Katedra organickej technologic Slovenskej vysokej skoly technickej)

TITLE: Influence of S compounds on the polymerization of vinyl monomers (I). The
influence of tetramethylthiuramdisulfide on the polymerization of styrene

SOURCE: Chemicke zvesti, no. 1, 1966, 18-27

TOPIC TAGS: styrene, polymerization kinetics, monomer, vinyl compound, reaction
rate, organic sulfur compound

ABSTRACT: Polymerization kinetics of styrene in the presence of tetramethylthiuram-
disulfide (TMTD) in concentration of 2.11×10^{-4} to 0.167 mol/liter were investigated
at temperatures of 80, 95, 115, and 130°C. The increase in the rate of polymeriza-
tion is not a linear function of the amount of TMTD present. Mathematical
expressions of this influence are discussed. Orig. art. has: 7 figures, 10 formulas
and 1 table. [Based on authors' Eng. abst.] [JPRS: 34,805]

SUB CODE: 07 / SUBM DATE: 23Jul65 / ORIG REF: 002 / SOV REF: 004

Card 1/1

STAUDINGER, J.

Examining the precision of polygons.

P. 321 (BANYASZATI LAJOK) Budapest Vol. 12, No. 6, June 1957.

SO: Monthly Index of East European Accessions (AMEI) Vol. 6, No. 11 November 1957.

88694

9,4300 (and 1043, "55)

S/058/60/000/010/003/014
A001/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 10, p. 252, # 27002

AUTHORS: Izhak, I.A., Stauer, E.V.

TITLE: Relaxation Phenomena in Ferroelectric Ceramics

PERIODICAL: Nauchn. zap. Dnepropetr. un-t, 1957, Vol. 72, pp. 29 - 32

TEXT: It is shown that delay in setting the stationary ϵ -value of ferroelectric ceramic materials acted upon by a constant electric field depends on the intensity of an alternate electric field and temperature. Delay vanishes almost completely at an alternate field equal to the saturating one and at temperatures above the Curie point. In order to reduce the inertness of ferroelectric ceramic materials, the intensity of alternate field should be increased up to that of the saturating one, to apply ferroelectrics with a low saturating field, and, in some cases, to apply materials with the Curie point being below the temperature at which ferroelectrics are usually used.

Authors' conclusions

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

SOV/51-7-4-25/32

AUTHORS: Stauer, E.V. and Rozenblat, M.G.

TITLE: Effect of Pulverization on the Optical and Electrical Properties of Certain ZnS Phosphors

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 4, pp 570-571 (USSR)

ABSTRACT: ZnS-Cu, ZnS-Cu,Al, ZnS-Cu,Mn and other phosphor powders were ground for half an hour; as a result the mean dimensions of the powder particles were reduced by a factor of 2-3. Luminescence experiments were carried out on these ground powders using a 100 μ thick capacitor filled with the phosphor mixed with silicone oil. Pulverization reduced the intensity of both photoluminescence and electroluminescence. The difference between the intensities of electroluminescence of pulverized and non-pulverized phosphors decreased with rise of the intensity and frequency of the exciting electric field (Fig 1). In certain phosphors pulverization produced displacement of the electroluminescence spectrum towards longer wavelengths; this displacement was greater when the exciting electric field intensities were high. Temperature quenching of electroluminescence of pulverized phosphors began at lower temperatures than in non-pulverized phosphors (Fig 2). After pulverization the real and imaginary parts of complex permittivity (ϵ' and ϵ'') decreased at all

Card 1/2

Effect of Pulverization on the Optical and Electrical Properties of Certain ZnS Phosphors SOV/51-7-4-25/32

frequencies and intensities of the applied electric field. In phosphors which exhibit strong dependences of ϵ' and ϵ'' on the frequency and intensity of the applied field, such dependences become less clear after pulverization (Fig 3). When temperature is varied the values of ϵ' and ϵ'' of pulverized phosphors alter to a smaller extent than those of non-pulverized phosphors. Pulverization produces also a decrease of the dark and photo-conductivities of phosphors and a decrease in the ratio of photoconductivity to dark conductivity. All these changes are due to a combination of the change in the particle dimensions and the effect of deformations produced in the phosphor particles during grinding. Acknowledgment is made to F.I. Kolomoitsev for his advice. There are 3 figures and 3 references, 1 of which is Soviet and 2 English.

SUBMITTED: April 15, 1959

Card 2/2

85876

24,7700 (1043,1143)
9.2185 (3203)

S/048/60/024/011/012/036
B006/B056

AUTHOR: Stauer, E. V.

TITLE: The Electroluminescence¹ of Barium Titanate¹ at Sound Audio
Frequencies

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 11, pp. 1350 - 1352

TEXT: The present paper is a reproduction of a lecture delivered on the
3rd Conference on Ferroelectricity, which took place in Moscow from
January 25 to 30, 1960. Harman discovered yellow luminescence in the elec-
trode-near layers of BaTiO₃ under the action of an electric alternating
field (r.f.). Also other titanates, niobates, and zirconates show this
effect. The author of the present paper succeeded in showing that BaTiO₃
emits a yellow or pink light which is visible in the dark when an elec-
tric alternating field of sound frequency from a certain threshold volt-
age onwards is applied. The electrodes¹ consisted of silver, aquadag,
graphite, or of a transparent SnO₂ layer. Samples with impurities of Fe,

Card 1/4

85876

The Electroluminescence of Barium Titanate
at Sound Frequencies

S/048/60/024/011/012/036
B006/B056

Ni, Nb, Zr, or Pb showed less intense electroluminescence. The maximum of electroluminescence was near Curie point. With an increase of the frequency from 20 cps to 20 kc/sec, the luminescence becomes brighter; the dependence of brightness on the applied voltage may be described

by the empirical formula $L = AV^b$, where the constants A and b depend on frequency and temperature; b changes from 3-4. If a constant displacement field is applied to the sample, which is excited by the alternating field, L decreases rapidly with increasing $V_{\perp}$. The dependence of luminescence upon the shape of the alternating voltage is shown in Fig.3. The mechanism of the origin of this luminescence is not yet fully explained, but the following is assumed: When a negative voltage is applied to the electrode, an electron emission of the cathode or a liberation of electrons from surface levels occurs. The free electrons are accelerated in the field and form electron-hole pairs as a result of impact ionization. As a consequence of recombination, the luminescence of the electrode-near layer might occur. The author thanks F. I. Kolomoitsev for his advice and Ye. A. Stafiychuk for placing the samples at his disposal. There are 3 figures and 12 references: 4 Soviet and 8 US.

Card 2/4

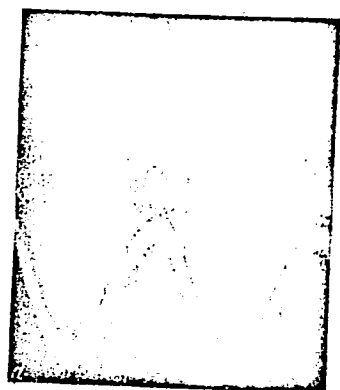
85876

The Electroluminescence of Barium Titanate
at Sound Frequencies,

S/048/60/024/011/012/036
B006/B056

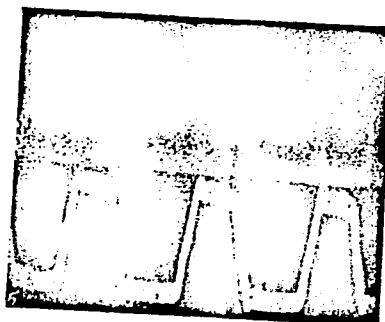
ASSOCIATION: Dnepropetrovskiy gos. universitet (Dnepropetrovsk State
University)

Card 3/4



1

Fig.3



2



3

Legend to Fig.3: 1) sinusoidal
voltage with 20 kc/sec
2) trapezoid-shaped voltage, 2 kc/sec
of two electrodes
3) trapezoid-shaped voltage, 2 kc/sec
of one electrode.

Card 4/4

34435

S/185/61/006/006/013/030
D299/D304

24.3500 (1137, 1138)

AUTHORS: Kolomoitsev, F.I., and Stayer, E.V.

TITLE: Influence of copper concentration on the optical and electrical properties of ZnS-Cu phosphors

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 6, 1961, 781 - 784

TEXT: Two methods were used for preparing the electroluminescent phosphors. The permittivity of the phosphors was measured by means of an a.c.-bridge, the resistance -- by the megohmmeter MOM-4 (MOM-4). On increasing the Cu concentration in ZnS-Cu phosphors, their electrical conductivity increases gradually. If the Cu concentration exceeds 10^{-3} gm per 1 gm of ZnS, the copper no longer enters the ZnS lattice, but remains on the grain surface in the form of a conducting phase; thereby the conductivity increases by 5-6 orders of magnitude. A further increase in Cu concentration leads but to a slight increase in conductivity. Phosphors which have a low Cu-concentration, are photoconductive. With increasing Cu-con-

Card 1/4

S/185/61/006/006/013/030
D299/D304

Influence of copper concentration ...

centration, the photoconductivity decreases, stopping altogether at concentrations of $3 - 5 \cdot 10^{-3}$ gm/gm. The permittivity ϵ varies but little for C concentrations of $5 \cdot 10^{-5}$ to $1 \cdot 10^{-3}$ gm/gm; however, with a concentration higher than $1 \cdot 10^{-3}$ gm/gm, it increases sharply. In phosphors with a low Cu content, the permittivity is frequency independent, whereas in phosphors with a Cu concentration which leads to a separation of the conducting phase Cu_2S , the permittivity increases at low frequencies. In phosphors with low Cu concentration, illumination produces the photodielectric effect, particularly noticeable at low frequencies. The photoluminescence decreases if the Cu concentration exceeds a certain optimum value. The electroluminescence, on the other hand, increases with the Cu concentration, reaching a maximum at a Cu concentration at which the electrical conductivity increases sharply. A formula is given for the electroluminescence B as a function of the applied voltage V. The optical- and electrical properties of ZnS-Cu phosphors depend very much on the annealing temperature. At temperatures below 200°C , the conductivity and permittivity are very high. If the temperature is raised above 200°C , the conductivity decreases by $3 - 4$ Card 2/4

Influence of copper concentration ...

S/185/61/006/006/013/030
D299/D304

orders of magnitude, reaching a minimum at 500 - 600°C; then it increases again. The permittivity first decreases with increasing temperature and then increases. The photoluminescence is greatest for temperatures of 600°C, and the electroluminescence -- for 800 - 900°C. If the green luminophor $\Phi K-106$ (FK-106), used in the second method of phosphor preparation, is put in a copper-salt solution and then dried at a moderate temperature, it becomes electroluminescent. The atmosphere of annealing is of great influence on the emission spectrum. The brightness is greatest at those Cu concentrations and temperature, at which the conductivity of the ZnS-Cu phosphors increases sharply. The increase in permittivity at low frequencies is due to the presence of Cu_2S or ZnO in the conducting phase and to the ratio between the ZnS phases. Hence the capacitance of an electroluminescent capacitor with a nonhomogeneous dielectric is frequency dependent, increasing with decreasing frequency. There are 3 figures and 7 references: 2 Soviet-bloc and 5 non-Soviet-bloc. The references to the English-language publications read as follows: P. Zalm, Phil. Res. Rep., 11, 353, 1956; S. Roberts, JOSA, 42, 850, 1952; W. Lehmann, J. Electrochem. Soc., 103, 24, 1956; A.N. Ince, C
Card 3/4

Influence of copper concentration ... S/185/61/006/006/013/030
D299/D304

W. Oatley, Phil. Mag., 46, 1081, 1955.

ASSOCIATION: Dnipropetrovs'kyi derzhavnyi universytet im. 300-rich-
chya vozz'yednannya Ukrayiny z Rosiyeyu (Dnipropetrovs'k State University im. 300-th Anniversary of the
Ukraine's Union with Russia)

X

Card 4/4

KOLOMOYTSEV, F.I., doktor tekhn.nauk, prof.; STAUVER, Ye.V. (Dnepropetrovsk)

Electroluminescence. Nauka i zhyttia 11 no.2:18-19 F '61.
(MIRA 14:3)

(Flourescent lighting)
(Television—Apparatus and supplies)

KOLOMOYTSEV, F.I.; STAUER, E.V.

Effect of the copper concentration on the optical and
electric properties of ZnS-Cu phosphors. Ukr.fiz.zhur.
6 no.6:781-785 N-D '61. (MIRA 16:5)

1. Dnepropetrovskiy gosudarstvennyy universitet im. 300-letiya
vossoyedineniya Ukrainy s Rossiyei.
(Phosphors—Optical properties) (Phosphors—Electric properties)

33048

S/051/62/012/001/017/020
E075/E436

24,3500(1137,1138,1144)

AUTHORS: Kolomoitsev, F.I., Izotov, V.P., Stauer, E.V.
TITLE: Luminescence of phosphorescent powders in electrical field

PERIODICAL: Optika i spektroskopiya, v.12, no.1, 1962, 127-129

TEXT: The authors investigated the causes of light emission in luminescent powders. Observations were made of light emission under the action of electrical field from self-activated zinc sulphide, zinc and cadmium sulphides activated with silver or copper, zinc silicate, mixed zinc and beryllium silicates, calcium and manganese tungstates, calcium and cadmium halophosphates, manganese arsenate, natural calcites, fluorites and other materials. Some of these compounds shine without any preparation but some of them begin to emit light only after treatment with solutions of various salts (e.g. Na_2SiO_3). The concentration of the added salt was of the order of 1×10^{-3} salt/g of powder. When the tension across a condenser filled with a phosphorescent powder is increased, the powder begins to shine, the process becoming more intense with further increases in tension. Periods of time from fractions of second to several minutes are necessary for the

Card 1/3

X

33648

S/051/62/012/001/017/020

E075/E436

Luminescence of phosphorescent ...

attainment of the maximum luminescence. For the repeated experiments the luminescence increases more rapidly with increasing tension. After the maximum is reached the luminescence begins to fade and for some of the powders it disappears in several seconds, but there are some powders for which it shows little change for several hours. If the polarity of the condenser plates with the shining luminophore is changed, then an increase in luminescence occurs near the electrode where the change took place, followed by gradual fading out and beginning of luminescence near the other electrode. When an alternating current is passed through the condenser the luminescence occurs at both the electrodes. The intensity of light decreases with increasing frequency of the current in contrast to typical electroluminophores for which the electroluminescence increases with frequency. Irrespective of the fact that many photo- and cathodoluminophores are luminescent under the action of electrical field, the work carried out by the authors in vacuum shows that this effect is not electroluminescence in the accepted sense of the word, but is a luminescence caused by gaseous discharge produced by the action of electrical field. Since the luminescence of the powders in direct contact with the

Card 2/3

4

3348

Luminescence of phosphorescent ...

S/051/62/012/001/017/020
E075/E436

electrodes arises both at the positive and negative electrodes, the authors conclude that the observed luminescence is anodo- and/or cathodoluminescence. There are 2 figures and 10 references: 3 Soviet-bloc and 7 non-Soviet-bloc. The four most recent references to English language publications read as follows: Ref.3: G. Destriau, H.F.Ivey. Proc. IRE, v.43, 1955, 1911; Ref.6: G. Wendell. Ann. Phys., v.12, 1953, 222; Ref.7: J.N.Bowtell, H.C.Bate. Proc. IRE, v.44, 1956, 697; Ref.8: H.C.Bate, J.N.Bowtell. Brit. Pat. 788 659, 8.01.58; 800 581, 27.08.58. X

SUBMITTED: July 3, 1961

Card 3/3

L 8543-65 EWT(1)/EEC(b)-2 IJP(c)/SSD/AFWL/AFMD(c)/ASD(a)-5/ASD(m)-3/AS(mp)-2/
ACCESSION NR: AR4044040 RAEM(e)/ESD(gs)/ESD(t) S/0058/63/000/011/D071/D071

SOURCE: Ref. zh. Fizika, Abs. 11D597

AUTHOR: Stauer, E. V.; Bolovik, N. B. 8

TITLE: The influence of atmosphere, annealing temperature, and copper concentration on the radiation spectra of ZnS-Cu phosphors ²¹

CITED SOURCE: Nauchn. zap. Dnepropetr. un-t, v. 77, 1962, 23-30

TOPIC TAGS: zinc sulfide phosphor, copper containing phosphor, radiation spectrum, luminescence spectrum, phosphor, photoluminescence, electroluminescence, annealing, zinc compound, sulfide

TRANSLATION: Investigates the luminescence spectra and the brightness of photoluminescence and electroluminescence of ZnS-Cu phosphors prepared without a flux by annealing in atmospheres of H₂S, HCl and H₂S + HCl at various Cu temperatures and concentrations. With high concentrations of Cu in phosphors prepared in H₂S, there is no second green band, while in phosphors prepared in HCl there is no second blue

Card 1/2

L 8543-65

ACCESSION NR: AR4044040

band; these bands are usual for phosphors prepared in air. The brightest electro-luminescence is exhibited by phosphors prepared in the mixture $H_2S + HCl$.

SUB CODE: IC, OP

ENCL: 00

Card 2/2

L 13101-63

EWI(1)/BDS AFFTC/ASD/SSD

ACCESSION NR: AP3003415

S/0051/63/015/001/0089/0094

AUTHOR: Kolomoitsev, F.I.; Korsun', V.M.; Lazorina, S.M.; Stauer, E.V.

55
54

TITLE: Red electroluminescence of ZnSe and CdS:Cu phosphors

SOURCE: Optika i spektroskopiya, v.15, no.1, 1963, 89-94

TOPIC TAGS: electroluminescence, ZnSe phosphor, CdS phosphor, ZnSe-CdS phosphor

ABSTRACT: The brightest electroluminophors now known (zinc sulfide phosphors) can be prepared to emit predominantly in the blue, green or yellow regions, depending on the activator introduced. ZnS:Cu has been reported to electroluminesce red, but its intensity is low. The paper describes the preparation of red electroluminescing phosphors by heating luminescence pure ZnSe with CdS and different fluxes with limited access of air. The lattice constants of these compounds are close so that solid solutions should form in a wide range of concentrations. The authors also prepared and tested CdS:Cu and ZnSe:Cu phosphors. The electroluminescence spectra were recorded on a Zeiss monochromator coupled to an FEU-22 photomultiplier. The powdered phosphors were suspended in silicone oil as a demountable capacitor. The conductivity of the phosphors was found by measuring the resistance of the capacitor; the dielectric constant by measuring the capacitance by means of

*Card 1/2

L 13101-63

ACCESSION NR: AP3003415

low and high frequency bridges. Curves showing the variation in electroluminescence brightness as a function of the flux concentration, heating time, heating temperature, and so on are reproduced. Both the photo- and electroluminescence of the phosphors deteriorate with time when these are stored in the presence of air. The effects of different factors including the Cu concentration are discussed. The properties of ZnSe:CdS phosphors vary, but generally the addition of CdS shifts the emission of ZnSe to the long wavelength side. "In conclusion the authors express their gratitude to A.I.Andriyevskiy for some measurements." Orig.art.has: 6 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 16Jul62

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: PH

NO REF SOV: 006

OTHER: 005

Card 2/2

ACC NR: AP7004989

SOURCE CODE: UR/0048/66/030/009/1514/1516

AUTHOR: Stauer, E.V.; Mordan', V.I.

ORG: Dnepropetrovsk State University (Dnepropetrovskiy gosudarstvennyy unidersitet)

TITLE: Effects of grinding on the photo- and electroluminescence of ZnS:Cu phosphors
/Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at
Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.30, no.9, 1966, 1514-1516

TOPIC TAGS: electroluminescence, photoluminescence, zinc sulfide, copper, grinding

ABSTRACT: The authors investigated the effects of grinding on the photo- and electroluminescence of ZnS:Cu phosphors. The investigation was undertaken because it is well known that grinding reduces both the photo- and electroluminescence brightness of these phosphors, whereas practical experience with electroluminescence cells indicates that grinding may increase the electroluminescence brightness. It was found that prolonged grinding of the phosphor, and any grinding of the dry phosphor, reduces both the electro- and photoluminescence brightness, but that moderate grinding in a viscous liquid medium can increase the electroluminescence brightness, but not the photoluminescence brightness. It was also found that grinding increases the reflection coefficient of the powdered phosphor, but not sufficiently to account for the decrease in the photoluminescence brightness. Several hypotheses advanced by

Card 1/2

ACC NR: AP7004989

different investigators concerning the mechanism of luminescence quenching by grinding are briefly discussed. The authors take an eclectic view, feeling that several different mechanisms are involved. It is suggested that the increase in the electroluminescence brightness that results from moderate grinding may be due to fragmentation and destruction of highly conductive Cu_2S masses that occur within the phosphor grains and on their surfaces, and which by their conductivity hamper the excitation of luminescence by an electric field. Orig. art. has: 1 formula and 2 figures.

SUB CODE: 20

SUBM DATE: none

ORIG. REF: 006

OTH REF: 007

Card 2/2

P O L .

621.822.5-181.4

3136

Stauffer A. Sleeve Bearings Corresponding in Size to Rolling Bearings.
„Łożyska ślizgowe o wymiarach łożysk tocznych”. Przegląd Mecha-

niczny. No. 11, 1953, pp. 387—389, 10 figs.
The author provides information on the subject of the applicability
and manufacture of sleeve bearings with dimensions identical to those
of rolling bearings. Description, uses and advantages of the „NOMA”
type sleeve bearing with fully-fluid friction. New constructional features
of a sleeve bearing designed by the author (part made and tested in
Poland) and intended to replace rolling bearings and eliminate the
use of materials in short supply.

STAUFFER, A.

Sliding Bearings Made to Dimensions of Rolling Bearings

Source - PRZEMIAŁ MECHANICZNY (Mechanical Engineering Review) Poland
Vol. XII, No. 10 October 1953, pp. 339-370

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Water Institute (Vodni zdroje), Prague

Prague, Casopis pro mineralogii a geologii, No 4, 1964, pp
429-439

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PISTORA, Z.; promovany, geolog; STAVA, M., promovany geolog

Filter galleries in wells with horizontal collectors. Vodni
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Geology of the northern section of the Veske Subjordan Basin.
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Implantation of large dose of follicular hormone in young
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K. Hubachmann, M. D.).

CA

Case of urticaria following arsphenamine. J. H. Trapp
and Zdenek Slavicek. *Dermato-Venerol.* 31, 125-9
(1954) (in English). Urticaria after arsphenamine (II). How-
ever, the histamine blood level dropped after I with or with-
out II.